DOCUMENT RESUME

ED 165 009 CE 019 724

TITLE Apprenticeship and You.
INSTITUTION Ontario Ministry of Colleges and Universities, Toronto.
PUB DATE Sep 78
NOTE 22p.; Not available in hard copy due to small print in the original document

EDRS PRICE MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS Admission Criteria; *Apprenticeships; Auto Mechanics (Occupation); Building Trades; Certification; Educational Background; Employment Qualifications; *Job Skills; *Minimum Wage; Occupational Information; Program Descriptions; Program Guides; *Program Length; Service Occupations; Skilled Occupations; *Trade and Industrial Education; Work Experience Programs

ABSTRACT

This booklet on Ontario (Canada) apprenticeship programs describes regulated and non-regulated trades in the following four categories: (1) construction, (2) industrial, (3) motive power, and (4) service. The introductory section covers what apprenticeship is, educational requirements, credits for academic and skill achievements, finding an employer, and certification. The remainder of the booklet covers from thirteen to twenty-one trades within each of the four trade categories and for each trade includes the following: education requirements, length of training program, minimum wages, duties and skills, and other information (includes dates that regulation and certification became effective). Some representative trades included under each of the four categories respectively are as follow: (1) brick and stone mason, construction boilermaker, electrician, general carpenter, and lineman; (2) general machinist, mold maker, tool and die maker, chemical plant operator, and patternmaker; (3) alignment and brakes mechanic, farm equipment mechanic, motor vehicle mechanic, service station attendant, and small engine mechanic; and (4) baker, barber, dry cleaner, hairdresser, and butcher. A list of miscellaneous non-regulated trades is attached. (EM)

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# Apprenticeship and You

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September 1978 ISBN 0-7743-2952-1

# Introduction

**What is Apprenticeship?**
Apprenticeship is the world's oldest formal system of learning. Skilled craftsmen and their apprentices designed, built and adorned the famous Sistine Chapel in the Vatican . . . craftsmen and apprentices built horseless carriages; in fact, skilled tradespeople, through the mechanism of apprenticeship, have been helping to advance civilization since before medieval Europe, even before ancient Greece and Rome.

Apprenticeship training has many famous exponents—Leonardo da Vinci, Henry Ford, Sir Sandford Fleming, to name but three. Nor is apprenticeship confined to men! More and more women are registering as apprentices, not only as hairstylists and cooks, but also as industrial millwrights, motor vehicle mechanics, and as apprentices in almost any other trade you care to mention. For men and women who want long-term jobs that are challenging, interesting and rewarding, apprenticeship in the skilled trades may be the answer.

Employers, too, are finding that apprenticeship is a wise investment in the future. To meet a growing demand by employers in Ontario, new apprenticeship programs are always being introduced and established programs upgraded. There's no doubt that the fast-paced advance of technology and intense competition in industry are increasing the need for capable, well trained apprentices.

The Industrial Training Branch (ITB) of the Ministry of Colleges and Universities administers Ontario's apprenticeship training programs. If, after reading *Apprenticeship and You,* your interest in apprenticeship has been aroused, you may obtain more information by meeting with an apprenticeship counsellor at the ITB office nearest you. At the end of this book, there is a complete list of ITB offices.

**Learn by doing, and earn at the same time!**
The best way to learn something is to do it! That's the basis of apprenticeship. Depending on the skilled trade you choose, the length of your training will vary between two and five years. During that time you will earn while you learn. Your employer will pay you a percentage of the current journeyman wage. As your productivity improves with increasing skill, so will your pay which, of course, would never be less than Ontario's minimum wage. During your last training period, you could be earning up to 90 per cent of a journeyman's wage.

All but 10 per cent of your apprenticeship program will consist of on-the-job training. The remainder is usually spent at a community college which provides you with the theory and additional instruction that you need to complete your training. *Apprenticeship and You* shows, for each trade, the number of hours you will spend on the job and in the classroom. Also listed for the major trades are the skills you will learn during your apprenticeship.

The Canada Employment and Immigration Commission will usually pay your tuition fees, a basic living allowance and, if applicable, travel expenses if you are required to attend a community college or similar institution for training away from your job.

**Choose your trade**
There are well over 200 skilled trades that are formally recognized in Ontario, each with its own apprenticeship training program.

*Regulated* trades are governed, as the term implies, by Ontario regulations under The Apprenticeship and Tradesmen's Qualification Act. These outline the standards and conditions of training for specific trades.

*Non-regulated* trades have, as the term suggests, no formal regulations. Training for these trades is often custom-designed to meet specific requirements of particular jobs.

For your convenience, *Apprenticeship and You* describes regulated and non-regulated trades in four categories: construction, industrial, motive power, and service trades. In addition, there is a list of miscellaneous non-regulated trades.

**Education requirements**
Although certain employers and trade unions require higher education standards, you are generally eligible for apprenticeship training if you are 16 years old or over and have completed Grade 10 of a secondary school program or the equivalent. It is important that you find out what level of education is required in your area for the trade you choose. For example, the Electrical Contractors' Association and the International Brotherhood of Electrical Workers require apprentices to have a Grade 12 diploma which must include specific credits.

Under certain circumstances, applicants for apprenticeship who do not have proof of these minimum education requirements can be evaluated by a Progressive Achievement Test. This test is administered by the Industrial Training Branch of the Ministry of Colleges and Universities. If you are successful on the test, you can register as an apprentice.

**Credits for academic and skill achievements**
Academic and skill achievement beyond the level required for a particular trade can often reduce the time spent in apprenticeship.

Your apprenticeship counsellor may recommend to your employer that you be granted a credit of 50 hours toward each apprenticeship period for each trade-related credit you achieved in high school or college. Your counsellor may also recommend that you be given similar credit for each academic school grade achieved beyond the prescribed entry level for the grade you have selected. Usually, seven credits make up one academic grade, with 110 to 120 hours of scheduled classroom instruction involved in each credit. The Industrial Training Branch counsellor in your area will help you identify these credit subjects.

**Find an employer . . .**
**Become an apprentice**
In order to become an apprentice, you must first find an employer who will agree to train you in your chosen trade during your apprenticeship program. Check with the local Canada Employment Centre for information on job opportunities for apprentices in specific trades or areas of the province. Your apprenticeship counsellor may be able to direct you to an employer who wishes to hire an apprentice. Then, it's up to you!

When you are hired as an apprentice, you are required to sign a contract with your employer which specifies the conditions for work, hours, wages and training. If you are under 18 years of age, a parent or guardian must also sign the contract, which is a legal agreement between you and your employer. The Industrial Training Branch of the Ministry of Colleges and Universities retains a copy of this contract.

Throughout your training, your apprenticeship counsellor is available to discuss your training with you and your employer and to ensure adequate training, rates of pay, and working conditions.

**Certificate of Apprenticeship and Certificate of Qualification**
Upon successfully completing your training periods in Ontario, you are eligible for both the Certificate of Apprenticeship and the Certificate of Qualification. In particular trades, you must write a final examination to qualify for these certificates. Certain of these trades have interprovincial standards, and a mark of 70 per cent or higher on your final examination will entitle you to receive an Interprovincial Red Seal which permits you to practice your trade in any Canadian province without further examination.

**Compulsory and voluntary certification**
In certain trades, certification is *compulsory:* only holders of the Certificate of Qualification or registered apprentices can practice these particular trades. Compulsory certification trades include electrician, plumber, motor vehicle mechanic and hairstylist, to name a few.

Trades with *voluntary* certification, such as cook, tool and die maker, farm equipment mechanic and construction millwright, do not require their practitioners to have a Certificate of Qualification. However, this certificate does indicate that the holder has reached a certain level of skill and expertise in his or her trade.

Compulsory or voluntary certification applies only to regulated trades.

**More information**
For more detailed information on the apprenticeship system, specific trades and their training schedules, contact the nearest Industrial Training Branch office listed at the end of this booklet. But, before you do, read on . . . .

# Construction Trades

**Leonardo da Vinci:**

In the year 1467, Leonardo, aged 15, entered the studio of Andrea Verrocchio, the famous Florentine artist-craftsman. It was here that he studied painting, sculpture and design, and after the customary six-year period of apprenticeship was admitted to the painters' guild of Florence.

It was upon this solid foundation of apprenticeship training that all of Leonardo's later triumphs were based.

His probing mind challenged contemporary thought in the fields of architecture, mathematics, physics, mechanics, anatomy, biology, and civil and military engineering, and raised man's understanding of man to unimagined heights.

## Construction Trades Regulated

**Brick and Stone Mason**
*Education requirements:*
Grade 8 or equivalent.

*Length of program:*
4 periods of 1,400 hours, including one in-school session of 8, and 2 of 7 weeks.

*Minimum wages:*
40, 60, 70 and 80 per cent of journeyman's wage per period.

*Duties and skills:*
Constructs and erects walls, arches, fire places, chimneys, smoke stacks and other items of brick and stone masonry components; lays fire brick and other refractory materials in walls and arches in the construction of furnaces, or in lining furnaces and retorts, or in enclosing boilers, tanks and heat treating furnaces.

*Other information:*
This trade came under voluntary certification in December 1970.

Ontario Regulation 19/76.

**Cement Mason**
*Education requirements:*
Grade 8 or equivalent.

*Length of program:*
3 periods of 2,000 hours, including 2 in-school sessions of 10 weeks each.

*Minimum wages:*
60, 75 and 90 per cent of journeyman's wage per period.

*Duties and skills:*
Finishes concrete flooring by hand or with mechanical equipment, including the application of curing and surface treatments; carries out all phases of waterproofing and restoration of concrete; rubs up and repairs hardened concrete surfaces; places and finishes epoxy, plastic and other composition materials; finishes and exposes aggregate in precast and architectural concrete.

*Other information:*
This trade came under voluntary certification on 1 July 1967.

Ontario Regulation 165/72.

**Construction Boilermaker**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 1,650 hours, including 3 in-school sessions of 8 weeks each.

*Minimum wages:*
60, 70, 80 and 90 per cent of journeyman's wage per period.

*Duties and skills:*
Lays out, assembles and erects boilers, pressure vessels, heat exchangers and repairs component parts; reads and understands drawings, specifications, technical literature, manufacturers' and safety regulations; fits plates, connects steel members, drills, reams, bolts, rivets, welds, rigs; stress relieves and tests pressure vessels and enclosures using air, water, smoke and other methods.

*Other information:*
Regulations for this voluntary trade came into force on 12 April 1978.

Ontario Regulation 266/78.

**Construction Millwright**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 2,000 hours, including one in-school session of 8 and 2 of 7 weeks.

*Minimum wages:*
60, 70, 80 and 90 per cent of journeyman's wage per period.

*Duties and skills:*
Installs, repairs, and maintains mechanical machines, their components, related devices and systems in industrial plants, commercial and institutional buildings, or construction sites; has a broad knowledge of metallurgy, welding, blueprint reading, and use of precise measuring instruments.

*Other information:*
This trade came under voluntary certification on 2 December 1972.

Ontario Regulation 543/72.

**Electrician (Construction and Maintenance)**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
5 periods of 1,800 hours, including 3 in-school sessions of 8 weeks each.

*Credits for academic achievement:*
200 hours in each period for grade 12.

*Minimum wages:*
40, 50, 60, 70 and 80 per cent of journeyman's wage per period.

*Duties and skills:*
Lays out, assembles, installs, repairs, maintains, connects or tests electrical fixtures, apparatus, control equipment and wiring for systems of alarm communication, light, heat or power in building or other structures; plans proposed installations from blueprints, sketches or specifications or installs panel boards, switch boxes, pull boxes and other related electrical devices; measures, cuts, threads, bends, assembles and installs conduits and other types of electrical conductor enclosures that connect panels, boxes, outlets and other related electrical devices; installs brackets, hangers, or equipment for supporting electrical equipment; installs in or draws electrical conductors through conductor enclosures; prepares conductors for splicing of electrical connections, secures conductors connections by soldering or other mechanical means, or reinsulates and protects conductor connections, or tests electrical equipment for proper function.

*Other information:*
This trade became certified on 1 October 1964; compulsory certification became effective on 1 May 1967.

Ontario Regulation 20/76.

**Electrician (Domestic and Rural)**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 1,800 hours, including 3 in-school sessions of 7 and one of 8 weeks.

*Credits for academic achievement:*
200 hours in each period for grade 12.

*Minimum wages:*
40, 50, 60 and 70 per cent of journeyman's wage per period.

*Duties and skills:*
Performs the work of an electrician in the construction, erection, repair, remodelling or alteration of houses, multiple dwelling buildings containing six or fewer dwellings, or buildings or structures used for farming; performs maintenance to electrical equipment in houses, multiple dwelling buildings containing six or fewer dwellings, or farms.

*Other information:*
This trade became certified on 1 October 1964; compulsory certification became effective on 1 May 1967.

Ontario Regulation 20/76.

**General Carpenter**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
3,844 hours minimum; 7,200 hours maximum, including 2 in-school sessions of 10 weeks each.

*Minimum wages:*
40, 50, 60 and 80 per cent upon successful completion of 5, 10, 15 and all of the 20 units of training (with appropriate work experience) respectively.

*Duties and skills:*
Does the woodwork in the erection, alteration or repair of structures; builds and erects forms for concrete; erects scaffolds, runways, and hoisting towers; erects partitions; places door frames and window frames; places joists, nailing-strips and sleepers; lays floors; prepares walls and ceilings for plastering; makes and places door jambs; fits and fixes mouldings; cleans and sands for interior finish; checks all work with plumb level and square ensuring proper alignment; installs interior fixtures, kitchen cupboards, prepares and erects panels; lays out and erects stairs and hand rails; fits and fixes hardware; fits doors, windows and fixtures; weatherproofs outside walls. *Does not include* a lather or cabinet maker.

*Other information:*
This trade came under voluntary certification on 28 September 1971.

Ontario Regulation 570/76.

**Glazier and Metal Mechanic**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 2,000 hours, including 2 in-school sessions of 7 and one of 8 weeks.

*Minimum wages:*
60, 65, 70, 75, 80, 85, 90 and 95 per cent of journeyman's wage in each *half* period.

*Duties and skills:*
Performs lay-out, fabrication, assembly and installation of extruded frames, hardware, store fronts, wall facings, manual sliding doors, window sashes, manual door closers, automatic door operators and curtain walls; performs lay-out, fabrication, assembly and installation of suspended glass fronts, stuck glass fronts, auto glass, art glass, aquariums and similar special products; cuts, fits and installs glass in wood and metal frames for windows, skylights, store fronts and display cases, or on building fronts and display cases, or on building fronts, interior walls, ceilings, tables and similar surfaces by means of mastic, screws or decorative mouldings; reads and understands design drawings, manufacturers' literature and installation diagrams.

*Other information:*
This trade came under voluntary certification on 1 August 1970.

Ontario Regulation 34 (as amended by O.R. 408/73).

**Ironworker**
*Education requirements:*
Grade 10 or equivalent and 17 years of age.

*Length of program:*
3 periods of 2,000 hours, including one in-school session of 8 and 2 of 7 weeks.

*Minimum wages:*
60, 70, 75, 80, 85 and 90 per cent of journeyman's wages for each *half* period.

*Duties and skills:*
Field fabricates, assembles, installs, handles, hoists, erects, dismantles, reconditions, adjusts, alters, repairs or services all structural iron work, pre-cast and pre-stressed concrete, concrete reinforcing materials, ferrous and non-ferrous materials in curtain wall, ornamental and miscellaneous metal work and all other materials used in lieu thereof, and applies sealants where applicable; moves and places machinery and heavy equipment; reads and understands shop and field drawings used in fabrication and erection, including those taken from original architectural and engineering drawings. *Does not include* the fabrication and assembly of materials in an industrial manufacturing plant.

*Other information:*
This trade came under voluntary certification on 1 May 1974.

Ontario Regulation 171/73.

**Lather**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
3 periods of 1,800 hours, including 2 in-school sessions of 10 weeks each.

*Minimum wages:*
40, 60 and 80 per cent of journeyman's wage per period.

*Duties and skills:*
In the construction or repair of walls, partitions, ceilings and arches in any structure, installs by tying, nailing, clipping or welding, wire, metal or wood, lath, plaster board or other materials and accessories to serve as a base for plaster, cement or acoustic material; erects plastic and light metal studs, frames and accessories to receive plaster board, wire and metal lath. *Does not include* the manufacture of equipment or the assembly of a unit before delivery to a building, structure or site, or the repair and maintenance of the installations in an operating industrial plant.

*Other information:*
This trade came under voluntary certification on 1 June 1967.

Ontario Regulation 16/76.

**Painter:**
**(1) Commercial/Residential**
**(2) Industrial**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
(1) 4 periods of 1,800 hours each;
(2) 3 periods of 1,800 hours each.

*Minimum wages:*
(1) 50, 60, 70 and 80 per cent of journeyman's wage per period; (2) 50, 60 and 70 per cent of journeyman's wage per period.

*Duties and skills:*
(1) Prepares and performs interior and exterior work to plaster, wallboard, wood, metal, concrete masonry, stucco and allied materials; erects scaffolding including swing stage; prepares and works with steam wallpaper stripping machines and applies wall coverings, wallpaper, grass cloth, wood veneer, vinyl fabrics and allied materials.
(2) Prepares and performs interior and exterior work to plaster, wallboard, wood, metal, concrete masonry, stucco and allied materials; erects scaffolding including swing stage; prepares and performs work by mechanical processes, blow torches, spray guns and sandblasting.

*Other information:*
This trade came under voluntary certification on 25 December 1976.

Ontario Regulation 960/76.

**Plasterer**
*Education requirements:*
Grade 8 or equivalent.

*Length of program:*
4 periods of 1,600 hours, including one in-school session of 8 and 2 of 7 weeks.

*Minimum wages:*
40, 50, 60 and 70 per cent of journeyman's wage per period.

*Duties and skills:*
Applies plaster and stucco to the walls and ceilings, whether interior or exterior, of a structure; applies plaster and stucco on lath, masonry and rigid insulation; tapes gypsum panels and wallboard.

*Other information:*
This trade came under voluntary certification in December 1970.

Ontario Regulation 43/70.

**Plumber**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
5 periods of 1,600 hours, including one in-school session of 8 and 2 of 7 weeks.

*Minimum wages:*
40, 50, 60, 70 and 80 per cent of journeyman's wage per period.

*Duties and skills:*
Lays out, assembles, installs, maintains or repairs in any structure, building or site,

piping, fixtures and appurtenances for the supply of water for any domestic or industrial purpose or the disposal of water after it has been used for a domestic or industrial purpose; connects to piping any appliance that uses water supplied to it or disposes of waste; installs the piping for any process, including the conveyance of gas, or any tubing for a pneumatic or air-handling system; makes joints in piping; reads and understands design drawings, manufacturers' literature and installation diagrams for piping and appliances connected thereto. *Does not include* the manufacture of equipment or the assembly of a unit prior to delivery to a building, structure or site, the laying of metallic or non-metallic pipe into trenches to form sanitary or storm sewers, drains or water mains, or the repair and maintenance of the installation in an operating industrial plant.

*Other information:*
This trade became certified in 1965, and on 1 October 1967, came under compulsory certification.

Ontario Regulation 44 (as amended by O.R. 77/71, 269/71, 410/73).

**Refrigeration and Air-Conditioning Mechanic**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
5 periods of 1,800 hours, including one in-school session of 8 and 2 of 7 weeks.

*Minimum wages:*
40, 50, 60, 70 and 80 per cent of journeyman's wage per period.

*Duties and skills:*
Installs or assembles any component of a refrigerating or air-conditioning system; assembles or connects any pipe or duct used in piping refrigerant or conditioned air; overhauls or repairs any equipment used in refrigerating or air-conditioning systems; tests, adjusts or instructs in the operation of refrigerating or air-conditioning systems. *Does not include* the repair or installation of hermetically sealed domestic self-contained appliances of not more than 9,000 Btu.

*Other information:*
This trade became certified on 1 November 1964. Compulsory certification became effective on 1 November 1966.

Ontario Regulation 612/73 (as amended by O.R. 17/76).

**Sheet Metal Worker**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
5 periods of 1,800 hours, including one in-school session of 8 and 2 of 7 weeks.

*Minimum wages:*
40, 50, 60, 70 and 80 per cent of journeyman's wage per period.

*Duties and skills:*
Manufactures, fabricates, assembles, handles, erects, installs, dismantles, reconditions, adjusts, alters, repairs or services all ferrous and non-ferrous sheet metal work of No. 10 U.S. gauge or of any equivalent or lighter gauge and all other materials used in lieu thereof; reads and understands shop and field sketches used in fabrication and erection, including those taken from original architectural and engineering drawings or sketches. *Does not include* work in production commonly know as mass production.

*Other information:*
This trade became certified on 1 October 1965, and on 1 October 1967, came under compulsory certification.

Ontario Regulation 298/73.

**Sprinkler and Fire Protection Installer**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
5 periods of 1,800 hours, including 2 in-school sessions of 7 and one of 8 weeks.

*Minimum wages:*
50, 60, 65, 70 and 80 per cent of journeyman's wage per period.

*Duties and skills:*
Lays out, assembles, installs, tests and maintains high and low pressure pipeline systems for supplying water, air, foam, carbon dioxide or other materials to or for fire protection systems; measures, cuts, reams, threads, solders, bolts, screws, melds or joins all types of piping, fittings or equipment for fire protection systems. *Does not include* the manufacture of equipment or the assembly of a unit prior to delivery to a building, structure or site.

*Other information:*
This trade came under voluntary certification on 24 January 1976.

Ontario Regulation 18/76.

**Steamfitter**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
5 periods of 1,800 hours, including one in-school session of 8 and 2 of 7 weeks.

*Minimum wages:*
40, 50, 60, 70 and 80 per cent of journeyman's wage per period.

*Duties and skills:*
Lays out, assembles, installs, maintains or repairs any heating system, cooling system, process system or industrial system; installs or connects piping in any building or structure; installs the piping for any process, including a process that conveys gas, or the tubing for any pneumatic or air-handling system; reads and understands design drawings, manufacturers' literature, and installation diagrams for any system referred to. *Does not include* the manufacture of equipment or the assembly of a unit prior to delivery to a building, structure or site.

*Other information:*
This trade became certified on 1 October 1965, and on 1 October 1967, came under compulsory certification.

Ontario Regulation 124/73.

## Construction Trades Non-regulated

**Draftsman (Architectural)**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
3 periods of 2,000 hours each.

*Minimum wages:*
40, 50 and 60 per cent of journeyman's wage per period.

*Duties and skills:*
Prepares drawings showing internal, external or other architectural features of office blocks, residential structures, industrial, commerical and other buildings; prepares preliminary sketches showing proposed internal, external and other principal features, as directed by architect; makes calculations to determine type and quality of materials required; prepares working drawings showing plans, elevations, sections and typical details for use on construction site, using a variety of drafting instruments; may estimate quantities of materials required for project and compute costs.

**Drywall and Acoustic Mechanic**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
3 periods of 1,500 hours each.

*Minimum wages:*
50, 60 and 70 per cent of journeyman's wage per period.

*Duties and skills:*
Applies wallboard sheets to ceiling and interior walls of buildings; measures area to be covered using straightedge or tape as gauge; cuts sheets to size and cuts out openings; seals joints between wallboards to prepare surface for papering or painting; sands seams and other rough areas of drywall construction using sanding machine or hand-operated sanding block; installs thermal acoustic insulation and sound absorption materials.

**Lineman**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 2,000 hours each.

*Minimum wages:*
40, 50, 60 and 70 per cent of journeyman's wage per period.

*Duties and skills:*
Constructs, alters or maintains overhead pole lines, tower lines and related equipment used in the transmission and distribution of electrical energy, including underground cable systems; has knowledge of all trade-related safety practices such as recognizing and removing all hazards, pole climbing with use of safety belt and handline, working on energized lines, pole-top rescue, first aid and resuscitation methods and safe rigging procedures.

*Other information:*
This trade is pending regulation and will come under voluntary certification.

**Terrazzo, Tile and Marble Setter**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 2,000 hours each.

*Minimum wages:*
40, 50, 60 and 70 per cent of journeyman's wage per period.

*Duties and skills:*
Installs decorative surfacings composed of cement, sand, pigment or chemical compounds, marble or other aggregates to floors, stairs and other surfaces; installs reinforcing and underbeds; forms first layer, cuts and installs metal division strips, spreads and troweis top layer; rolls marble or other aggregates into surface; may grout, grind, polish and seal hardened terrazzo surfaces; sets tiles to surface walls and floors, according to specified designs; applies metal lath, scratch coat and setting bed; cuts, trims, fits and installs tiles and required accessories; cuts and sets marble slabs to make ornamental and protective surfaces; installs anchor bolts, wires and brackets; applies mortar; trims and sets marble slabs in accordance with design drawings.

## Industrial Trades Regulated

**General Machinist**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 1,500 hours, including one in-school session of 8 and 2 of 7 weeks.

*Minimum wages:*
Starting at 50 per cent of journeyman's wage and increasing by 5 per cent for every 1,000 hours of training completed.

*Duties and skills:*
Sets up and operates various types of precision metal cutting and grinding machines to close tolerances; has a broad understanding of metallurgy; is familiar with the use and care of precision measuring equipment; has a detailed knowledge of blueprint reading.

*Other information:*
Regulations for this voluntary trade came into force on 17 June 1978.

Ontario Regulation 421/78.

**Mould Maker**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 2,000 hours, including 3 in-school sessions of 8 weeks each.

*Minimum wages:*
Starting at 50 per cent of journeyman's wage and increasing by 5 per cent for every 1,000 hours of training completed.

*Duties and skills:*
Makes, repairs and modifies moulds, models and templates etc.; works to close tolerances and criteria in all operations; has a detailed knowledge of blueprint and drawing interpretation, plastics, processing methods and equipment; should have broad understanding of metallurgy, heat treatment and working knowledge of the use, care and operation of machine tools and equipment.

*Other information:*
Regulations for this voluntary trade came into force on 17 June 1978.

Ontario Regulation 422/78.

**Tool and Die Maker**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 2,000 hours, including one in-school session of 8 and 2 of 7 weeks.

*Minimum wages:*
Starting at 50 per cent of journeyman's wage, increasing by 5 per cent for every 1,000 hours of training completed.

*Duties and skills:*
Makes, repairs and modifies dies, forms, cutting tools, gauges, jigs and fixtures; works to close tolerances in all phases of job; has a detailed knowledge of blueprint reading and interpretation; should have a broad understanding of metallurgy and a working knowledge of the use, care and operation of machine tools and related equipment.

*Other information:*
Regulations for this voluntary trade came into force on 17 June 1978.

Ontario Regulation 420/78.

## Industrial Trades Non-regulated

**Carpenter (Plant)**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 1,800 hours each.

*Minimum wages:*
40, 50, 60 and 70 per cent of journeyman's wage per period.

*Duties and skills:*
In an industrial plant or industrial processing area: cuts, shapes, assembles, erects and maintains various types of wood structures and fittings, using hand and power tools; makes, alters and repairs structural wood work and objects, at bench or on location, by performing general carpentry operations such as sawing, planing, fitting, nailing and glueing; builds, assembles, places and dismantles concrete forms, cuts, fits, and installs doors, door frames, window frames, staircases, interior and exterior trim; lays hardwood flooring, floor and ceiling tile; builds scaffolds, walls, floors, partitions, roofs, docks, trusses, equipment and machine bases.

**Chemical Plant Operator**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
3 periods of 2,000 hours each.

*Minimum wages:*
40, 50 and 60 per cent of journeyman's wage per period.

*Duties and skills:*
Operates control panels which control distillation trains, chemical reactors, pumps, compressors and heat exchangers; ensures reactions are controlled according to standard practice; operates and controls filters, blenders, steam, electric and gas heating devices, decanters, mixers, dryers, pumps, compressors, vacuum jets and pumps, conveyors, fans and blowers; fills containers, tank cars, tank trucks and storage tanks; calculates yields, blends and mixes; inspects and reports on mechanical condition of all equipment used; ensures safe practices and standards are maintained and followed.

**Draftsman (Mechanical)**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
3 periods of 2,000 hours each.

*Minimum wages:*
40, 50 and 60 per cent of journeyman's wage per period.

*Duties and skills:*
Prepares working plans and other technical drawings from sketches or notes, for machines, engines, jigs and fixtures, mechanical equipment and various types of products for engineering, manufacturing, illustrative and other purposes; checks dimensions of parts, materials to be used, the relation of one part to another and the relationship of the various parts to the whole unit; prepares finished drawings, making necessary calculations and utilizing knowledge of various machines and engineering manufacturing practices.

**Electrician (Plant Maintenance)**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 2,000 hours each.

*Minimum wages:*
40, 50, 60 and 70 per cent of journeyman's wage per period.

*Duties and skills:*
In an industrial plant: installs conduit, junction boxes, switches; pulls, insulates and seals cables; installs, aligns, hooks up and tests machines; installs lighting, control, communications and heating systems; maintains, cleans and repairs starters, switches, controllers, circuit breakers, etc.; overhauls and repairs A.C. and D.C. motors and generators; rewinds armatures and stators, skims and undercuts commutators; carries out static and dynamic balancing, removal and replacement of bearings, couplings, drives, V-Belts, etc.; aligns bearings, couplings and drives; tests continuity and insulation; checks and adjusts electronic industrial controls.

**Electronics Mechanic (Industrial Control)**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 2,000 hours each.

*Minimum wages:*
40, 50, 60 and 70 per cent of journeyman's wage per period.

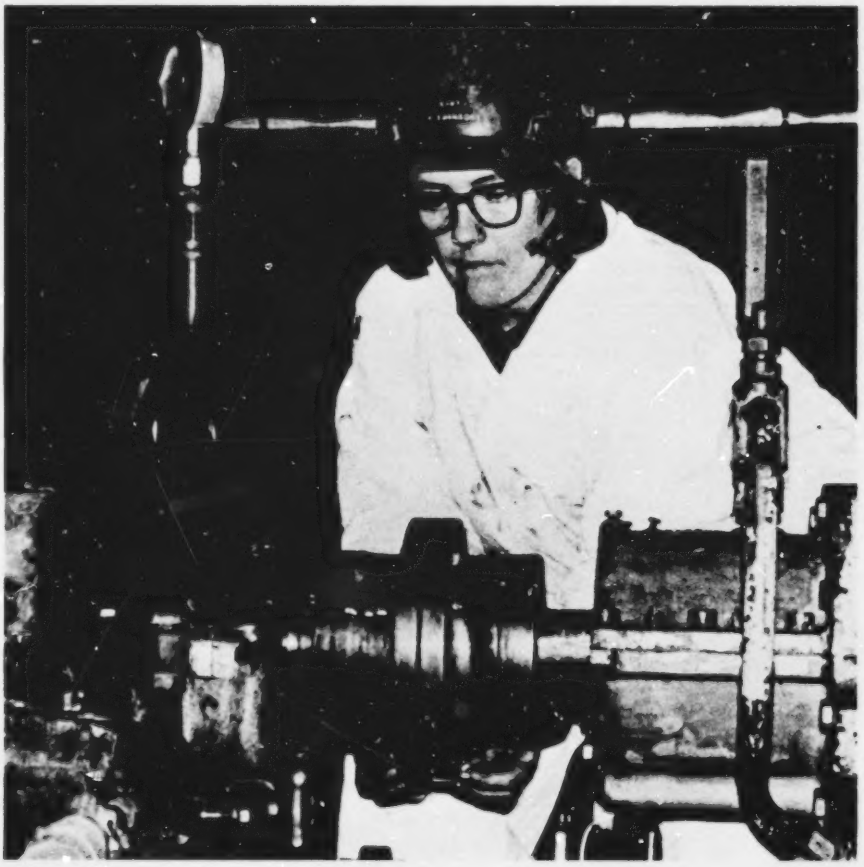
*Duties and skills:*
Installs, tests, calibrates and repairs electronic control, monitoring and communications equipment in an industrial plant.

**Fitter-Structural Steel/Platework**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
3 periods of 1,800 hours each.

*Minimum wages:*
40, 50 and 60 per cent of journeyman's wage per period.

*Duties and skills:*
Selects materials and tools; plans lay-out, fabrication and assembly of heavy platework and structural steel to specified tolerances, using drawings, blueprints and specification charts; is familiar with the set-up and operation of power shears, power saws, punch presses, bending brakes and rolls, drills, grinders, riveters, oxy-acetylene and arc cutting and welding equipment.



**Industrial Millwright**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 2,000 hours each.

*Minimum wages:*
60, 70, 80 and 90 per cent of journeyman's wage per period.

*Duties and skills:*
Installs, repairs and maintains mechanical machines, their components, related pneumatic and hydraulic systems in industrial plants or specific process areas; has a broad knowledge of metallurgy, welding, blueprint reading and use of precision measuring instruments.

*Other information:*
This trade is being processed to a regulated trade.

**Oil Burner Mechanic**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
2 periods of 1,800 hours each.

*Minimum wages:*
40 and 50 per cent of journeyman's wage per period.

*Duties and skills:*
Installs, cleans, repairs, overhauls, adjusts and removes oil burner installations and is licensed in accordance with the regulations of the Ontario Ministry of Consumer and Commercial Relations, Energy Safety Branch, Technical Standards Division.

**Patternmaker**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 2,000 hours each.

*Minimum wages:*
40, 50, 60 and 70 per cent of journeyman's wage per period.

*Duties and skills:*
Builds, shapes or repairs wood and metal patterns to drawings or specifications using trade-related hand and power tools, woodworking machines and machine tools; makes or repairs patterns, including die-block patterns, following blocks for die-sinking machines using gypsum plasters and cements, poured resin, or fiberglass and resin lay-ups, machines and finishes to drawings or specifications.

**Sheet Metal Worker (Plant)**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 2,000 hours each.

*Minimum wages:*
40, 50, 60 and 70 per cent of journeyman's wage per period.

*Duties and skills:*
In an industrial plant: fabricates, installs or repairs sheet metal products used for plant maintenance, dust collection, ventilation systems and plant processes, using trade-related hand and power tools and equipment; selects gauge of materials specified in blueprints and drawings; does the lay-out, measuring and planning for efficient shop fabrication; sets-up, operates or uses and maintains power shears, power saws, punch presses, press brakes and rolls, crimpers, drills, grinders, nibblers and oxy-acetylene, arc welding and spot welding equipment.

**Welder (Arc and Gas)**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 2,000 hours each.

*Minimum wages:*
40, 50, 60 and 70 per cent of journeyman's wage per period.

*Duties and skills:*
Welds metal parts together, according to lay-outs, blueprints or work orders, using both gas welding and any combination of arc welding processes such as manual, automatic and semi-automatic, inert gas and submerged arc; may perform flame-cutting and grinding.

*Other information:*
To weld on boilers, pressure vessels and pressure piping, it is necessary to pass Qualification Tests specified by the Ontario Ministry of Consumer and Commercial Relations, Boilers and Pressure Vessels Branch, Technical Standards Division.

**Woodworking Machinist (Cabinet and Furniture)**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 2,000 hours each.

*Minimum wages:*
40, 50, 60 and 70 per cent of journeyman's wage per period.

*Duties and skills:*
Sets up and operates a variety of woodworking machines to surface, cut and shape lumber to fabricate components for wood products, such as cabinets and furniture, according to specifications; verifies dimensions of parts using gauges and templates; assembles fabricated parts to make cabinets and furniture, apply veneers and plastic laminates, using hand or power tools; may apply finishing materials and trimming hardware; may prepare working drawings or sketches of work to be produced.

**Woodworking Machinist (Millwork)**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 2,000 hours each.

*Minimum wages:*
40, 50, 60 and 70 per cent of journeyman's wage per period.

*Duties and skills:*
Sets up and operates a variety of woodworking machines to surface, cut, and shape lumber, and to fabricate parts for wood products, such as doors, door and window frames, and sashes, according to specifications; verifies dimensions of parts, using gauges and templates; assembles fabricated parts to make millwork products, such as doors, sashes, door and window frames, and structural components, using hand and power tools; may prepare working drawings or sketches of work to be produced.

# Motive Power Trades

**Henry Ford:**
He started work in 1879 at the foundry of James Flower and Brothers in Detroit at the princely rate of $2.50 for a 60-hour week.

It was here that the 16-year old Henry Ford, as an apprentice machinist, discovered and developed his uncanny

understanding of complex machinery and started out on a career that was to change not only the manufacturing process but the lifestyle of the civilized world.

He conceived the "assembly line" and perfected the low cost, high-output benefits of mass production. Between the years 1909 and 1927 he produced more than 15 million Model T Fords and put a nation on wheels. He was the first man to travel at 90 miles an hour; his pioneering in aviation led to the famous Ford Tri-motor aircraft, affectionately known as the "Tin Goose", the inauguration of the first commercial airline in the United States, and the development of direction-finding radio beacons for safer aircraft navigation.

## Motive Power Trades Regulated

**Alignment and Brakes Mechanic**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
3 periods of 1,800 hours including 2 in-school sessions of 6 weeks each.

*Credits for academic achievement:*
200 hours in each period for grade 12; 600 hours in each period for grade 12 specializing in auto mechanics.

*Minimum wages:*
50, 70 and 90 per cent of journeyman's wage per period.

*Duties and skills:*
Adjusts, maintains and repairs suspension and brake systems, wheels, rims, tires and tubes; balances wheels; inspects frame alignment and realigns as necessary.

*Other information:*
This trade came under compulsory certification on 1 April 1969.

Ontario Regulation 100/69.

**Auto Body Repairer**
*Education requirements:*
Grade 8 or equivalent.

*Length of program:*
4 periods of 1,800 hours, including one in-school session of 8 and one of 7 weeks.

*Credits for academic achievement:*
400 hours in each period for grade 12 specializing in auto body repair.

*Minimum wages:*
50, 60, 80 and 90 per cent of journeyman's wage per period.

*Duties and skills:*
Hammers out dents in body panels, fenders and skirting; files, grinds, sands, fills and finishes ready for priming any dented, welded or pieced area; shrinks or stretches metal panels by heat treatment; welds breaks in body area; tests for and corrects faulty alignment of frame; paints and glazes; removes and installs body parts.

*Other information:*
This trade became certified in October 1944, and came under compulsory certification on 21 October 1946.

Ontario Regulation 99/69.

**Automotive Machinist**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 1,800 hours, including one in-school session of 8 and 2 of 7 weeks.

*Minimum wages:*
60, 70, 80 and 90 per cent of journeyman's wage per period.

*Credits for academic achievement:*
300 hours in each period for grade 12 specializing in auto mechanics or machine shop practice.

*Duties and skills:*
Reconditions and rebuilds internal combustion engines and associate components, power trains, brake system components and suspension system components; disassembles, cleans, inspects, reconditions and adjusts crankshafts, camshafts, drive shafts, cylinder heads, cylinder blocks, manifolds and fly-wheels; balances rotating parts, fits pins, grinds and turns brake drums and brake discs and faces brake shoes; bores and sleeves cylinder blocks, rebores and finishes engine cylinders, reconditions connecting rods, services valve trains, resizes pistons and aligns borings; welds crankshafts and cams, braces saddle bores and metalizes engine parts; tests cylinder blocks, manifolds, cylinder heads and engine; rebuilds engine components and parts.

*Other information:*
This trade came under voluntary certification on 1 April 1969.

Ontario Regulation 21.

**Automotive Painter**
*Education requirements:*
Grade 8 or equivalent.

*Length of program:*
2 periods of 1,800 hours, including one in-school session of 8 weeks.

*Minimum wages:*
60 and 80 per cent of journeyman's wage per period.

*Duties and skills:*
Refinishes painted surfaces of automobile and truck bodies and anodized aluminum moulding; mixes paint and matches colours.

*Other information:*
This trade came under voluntary certification on 1 April 1969.

Ontario Regulation 102/69.

**Farm Equipment Mechanic**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
5 periods of 1,800 hours, including one in-school session of 14 and 2 of 8 weeks.

*Credits for academic achievement:*
400 hours in each period for grade 12; 100 hours in each period for completion of approved pre-apprenticeship course; 500 hours in each period for grade 12 and completion of approved pre-apprenticeship course.

*Minimum wages:*
50, 60, 70, 80 and 90 per cent of journeyman's wage per period.

*Duties and skills:*
Inspects, disassembles, adjusts, repairs, overhauls, assembles or re-assembles, and tests tractors, machinery and other equipment used in farming operations other than motor vehicles and trailers registered for use on a highway under the Highway Traffic Act.

*Other information:*
This trade came under voluntary certification on 5 October 1971. Its Apprentice Training Program is successor to the Farm Machinery Servicing Program previously offered by the Ontario Department of Agriculture and Food at the Ontario Agricultural College, Guelph, to trainees selected and sponsored by farm equipment dealers.

Ontario Regulation 395/71.

**Fuel and Electrical Systems Mechanic**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
3 periods of 1,800 hours, including one in-school session of 8 weeks.

*Credits for academic achievement:*
200 hours in each period for grade 12;
600 hours in each period for grade 12 specializing in auto mechanics.

*Minimum wages:*
50, 70 and 90 per cent of journeyman's wage per period.

*Duties and skills:*
Repairs and adjusts fuel systems; installs, repairs and removes ignition systems generators, alternators, starters, coils, panel instruments, wiring and other electrical systems and equipment; performs a complete tune-up of an engine; installs, inspects, maintains and removes motor vehicle air-conditioning systems.

*Other information:*
This trade became certified in October 1944, and came under compulsory certification on 21 October 1946.

Ontario Regulation 32.

**Heavy Duty Equipment Mechanic**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
5 periods of 1,800 hours, including one in-school session of 12 and 2 of 7 weeks.

*Credits for academic achievement:*
200 hours in each period for grade 12, or for grade 10 with a completed pre-apprenticeship course; 600 hours in each period for grade 12 with a completed pre-apprenticeship course.

*Minimum wages:*
50, 60, 70, 80 and 90 per cent of journeyman's wage per period.

*Duties and skills:*
Disassembles, adjusts, repairs and reassembles all heavy duty equipment components and systems, including suspensions for tracked vehicles, attachments and ancillaries used in construction, logging, mining and farming operations and tests them for serviceability.

*Other information:*
This trade came under voluntary certification on 1 April 1969.

Ontario Regulation 96/69.

**Motorcycle Mechanic**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
3 periods of 1,800 hours, including 2 in-school sessions of 8 weeks each.

*Credits for academic achievement:*
200 hours in each period for grade 12;
600 hours in each period for grade 12 specializing in auto mechanics.

*Minimum wages:*
50, 70 and 90 per cent of journeyman's wage per period.

*Duties and skills:*
Disassembles, adjusts, repairs and reassembles engines, power trains, suspensions and all systems of motorcycles, and tests them for serviceability.

*Other information:*
This trade came under compulsory certification on 1 April 1969.

Ontario Regulation 101/69.

**Motor Vehicle Mechanic**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
5 periods of 1,800 hours, including 3 in-school sessions of 8 weeks each.

*Credits for academic achievement:*
200 hours in each period for grade 12;
600 hours in each period for grade 12 specializing in auto mechanics.

*Minimum wages:*
50, 60, 70, 80 and 90 per cent of journeyman's wage per period.

*Duties and skills:*
Disassembles, adjusts, repairs and reassembles engines, transmissions, clutches, rear ends, differentials, brakes, drive shafts, axles and other assemblies; tests for and corrects faulty alignment of wheels and steering mechanisms, manual or power; repairs or replaces suspension systems including shock absorbers and spring assemblies; installs, repairs and removes ignition systems, generators, alternators, starters, coils, panel instruments, wiring and other electrical systems and equipment; repairs and adjusts fuel systems; performs complete engine tune-ups; installs, inspects, maintains and removes motor vehicle air-conditioning and refrigeration systems.

*Other information:*
This trade was introduced in Ontario in 1928, certified in 1937 under The Apprenticeship Act, and came under compulsory certification on 21 October 1946.

Ontario Regulation 40.

**Service Station Attendant**
*Education requirements:*
Grade 8 or equivalent.

*Length of program:*
2 periods of 1,800 hours, including one in-school session of 8 weeks.

*Credits for academic achievement:*
200 hours in each period for grade 12;
600 hours in each period for grade 12 specializing in auto mechanics.

*Minimum wages:*
60 and 80 per cent of journeyman's wage per period.

*Duties and skills:*
Lubricates vehicles; maintains cooling systems, batteries, lights, horns, miscellaneous circuits, spark plugs, belts and hydraulic levels; replaces complete exhaust systems or parts; repairs tires and tubes and balances wheels.

*Other information:*
This trade came under voluntary certification on 1 April 1969.

Ontario Regulation 103/69.

**Transmission Mechanic**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
3 periods of 1,800 hours, including 2 in-school sessions of 8 weeks each.

*Credits for academic achievement:*
200 hours in each period for grade 12;
600 hours in each period for grade 12 specializing in auto mechanics.

*Minimum wages:*
50, 70 and 90 per cent of journeyman's wage per period.

*Duties and skills:*
Repairs clutches, standard and automatic transmissions, and drive shafts; is familiar with engine operation in relation to its correct functioning with these components.

*Other information:*
This trade came under compulsory certification on 1 April 1969.

Ontario Regulation 49.

**Truck-Trailer Repairer**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
3 periods of 1,800 hours, including 2 in-school sessions of 8 weeks each.

*Credits for academic achievement:*
200 hours in each period for grade 12.

*Minimum Wages:*
50, 70 and 90 per cent of journeyman's wage per period.

*Duties and skills:*
Repairs trailer suspension systems, frames, brakes and electrical systems; performs basic trailer body repair and maintenance of refrigeration equipment.

*Other information:*
This trade came under compulsory certification on 1 April 1969.

Ontario Regulation 50.

## Motive Power Trades
## Non-regulated

**Small Engine Mechanic**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
2 periods of 2,000 hours each.

*Minimum wages:*
50 and 80 per cent of journeyman's wage per period.

*Duties and skills:*
Using hand tools, repairs small air-cooled gasoline engines used to power lawnmowers, snowblowers, chainsaws, garden tractors, snowmobiles, portable pumps and generator sets, as well as air- or water-cooled outboard motors; locates causes of trouble, using hand tools and instruments; dismantles engines and examines for defects; replaces or repairs and reconditions parts, using hand or power tools; cleans, overhauls, repairs and adjusts carburetors and fuel systems, coil and magneto ignition systems, electrical systems, power trains and associated components; tests performance of repaired or overhauled engines, components and units.

## Service Trades Regulated

**Baker**

*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
3 periods of 2,000 hours, including 2 in-school sessions of 15 weeks each.

*Minimum wages:*
65, 75 and 85 per cent of journeyman's wage per period.

*Duties and skills:*
Prepares ingredients, straight dough, different types of fermented goods, sweet and puff paste goods, tea biscuits and doughnuts, flour and sugar, cocoa and chocolate, puddings and desserts, pastry and chaux paste, bread and rolls, pies, cookies, muffins, icings and fillings, cakes and creams; supervises bakery formulation, fermentation, stock control, receiving and issuing, product costing, ingredient and material purchasing, decorating and specialty work; has knowledge of sanitation and safety equipment.

*Other information:*
New regulations for this voluntary trade came into force on 12 April 1978.

Ontario Regulation 265/78.

**Junior Baker**

*Education requirements:*
Grade 8 or equivalent.

*Length of program:*
One period of 2,000 hours, including one in-school session of 15 weeks.

*Minimum wages:*
65 per cent of journeyman's wage for the period.

*Duties and skills:*
Prepares ingredients, straight dough, different types of fermented goods, pies, sweet and puff paste goods, cookies, creams, cakes, icings and fillings, muffins, tea biscuits and doughnuts; assists in bakery formulation and fermentation processes; has knowledge of sanitation and safety equipment.

*Other information:*
New regulations for this voluntary trade came into force on 12 April 1978.

Ontario Regulation 265/78.

**Barber**

*Education requirements:*
Grade 9 or equivalent.

*Length of program:*
3 periods of 1,500 hours including one in-school session of 18 weeks.

*Minimum wages:*
50, 70 and 90 per cent of journeyman's wage per period.

*Duties and skills:*
Cuts and trims hair; tints, bleaches or dyes hair; shampoos hair and scalp; gives hair and scalp treatments or facial massages; cleans or dresses artificial hair pieces, shapes, colours or treats eyebrows or eyelashes; curls or waves hair; combs or brushes hair; shaves or trims beards or moustaches, and performs any other operation with respect to dressing hair to obtain an intended effect or according to a particular style; represents himself or herself to the public as a barber only.

*Other information:*
This trade became certified in 1963 and on June 30, 1965, came under compulsory certification.

A person may also become a barber by registering with a licensed private school and paying the tuition fee. A list of schools is available from the Industrial Training Branch.

New regulations are being processed for "hairstylist" which will incorporate both barber and hairdresser.

Ontario Regulation 248/69.

**Cook**

*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
3 periods of 2,000 hours, including 2 in-school sessions of 15 weeks each.

*Minimum wages:*
65, 75 and 85 per cent of journeyman's wage per period.

*Duties and skills:*
Assembles and prepares complete meals, short order grills, hot and cold buffets, salads and dressings, desserts and non-alcoholic beverages; carves cooked meats, poultry, fish and game; has a working knowledge of table service, soups and sauces, weights and measures, hygiene, equipment handling, sanitation and safety; has a detailed knowledge of stock control, receiving, issuing, menu planning, food costing and purchasing.

*Other information:*
This trade came under voluntary certification on 1 November 1964. A major revision in 1976 resulted in the formation of two apprenticeship programs in this field–cook and assistant cook.

Ontario Regulations 915/76.

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**Assistant Cook**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
One period of 2,000 hours including one in-school session of 15 weeks.

*Minimum wages:*
65 per cent of journeyman's (assistant cook's) wages.

*Duties and skills:*
Assembles and prepares complete breakfasts, short order grills, sandwiches, simple salads, simple desserts, vegetables and non-alcoholic beverages; carves cooked meats, poultry and game; has a working knowledge of table service, soups and sauces, weights and measures, hygiene, equipment handling, sanitation and safety.

*Other information:*
This is a new trade which came under voluntary certification on 17 November 1976. Graduate assistant cooks may apply the time spent in this program toward the cook training program should they wish to continue their studies.

Ontario Regulation 915/76.

**Dry Cleaner**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 900 hours each.

*Minimum wages:*
40, 50, 60 and 70 per cent of journeyman's wage per period.

*Duties and skills:*
Operates machine(s) to dry clean, with chemical solutions, clothing, textile furnishings and similar articles; may sort articles according to colour and condition and type of material and remove spots or stains by rubbing them with solvent; may filter solution after use to make it fit for re-use; when machine cleaning is unsuitable or unavailable, cleans by hand with a chemical solution; examines articles to ascertain condition and type of material and decides on type of treatment to be given; may clean upholstered furniture; removes, with chemical solution or substance, spots and stains from clothing, textile furnishings, leather goods and similar articles; may wash articles before removing spot or stain; smooths and shapes clothing, textile furnishings and similar articles by means of a pressing machine.

*Other information:*
This trade came under voluntary certification on 1 February 1967.

Ontario Regulation 30.

**Hairdresser**

*Education requirements:*
Grade 9 or equivalent.

*Length of program:*
3 periods of 1,500 hours, including 2 in-school sessions of 8 weeks.

*Minimum wages:*
50, 70 and 90 per cent of journeyman's wage per period.

*Duties and skills:*
Tints, bleaches or dyes hair; shampoos hair and scalp; gives hair and scalp treatments; cleans or dresses artificial hair pieces; cuts and trims hair; shapes, colours, or treats eyebrows or eyelashes; curls or waves hair by any means; combs or brushes hair; performs any other operation with respect to dressing hair to obtain an intended effect or according to a particular style.

*Other information:*
This trade became certified on June 17, 1936, and on September 1, 1962, came under compulsory certification.

A person may also become a hairdresser by registering with a licenced private school and paying the tuition fee. A list of schools is available from the Industrial Training Branch.

New regulations are being processed for "hairstylist" which will incorporate both barber and hairdresser.

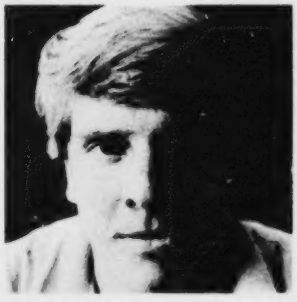
Ontario Regulation 35 (as amended by O.R. 207/71).

**Radio and TV Service Technician**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 2,000 hours, including 2 in-school sessions of 18 weeks each.

*Minimum wages:*
40, 50, 60 and 80 per cent of journeyman's wage per period.

*Duties and skills:*
Installs, adjusts and repairs radio and television receivers and other domestic electronic equipment; makes adjustments to obtain desired density, linearity, focus, colour and size of television pictures; isolates and detects defects by the use of schematic diagrams, volt meters, generators, oscilloscopes and other electronic testing instruments; tests and changes electronic and solid-state components; repairs loose connections and repairs or replaces defective parts by the use of hand tools and soldering irons; understands electronic theory and shop techniques. *Does not include* the manufacture of, the repair and maintenance in an industrial plant of, or the wiring to an external power source of radio, television, amplifier or other related electronic equipment.



*Other information:*
This trade came under voluntary certification on 1 December 1966.

Ontario Regulation 221/74.



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**Watch Repairer**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 1,300 hours.

*Minimum wages:*
40, 60 and 80 per cent of journeyman's wage per period.

*Duties and skills:*
Makes or fits parts for timepieces; repairs, alters, takes apart, assembles or reassembles timepieces or any part thereof; determines the condition of timepieces and estimates the repairs necessary; cleans, polishes or lubricates timepiece movements or any part thereof; tests, adjusts or regulates timepieces or any part thereof.

*Other information:*
This trade became certified on 1 November 1964, compulsory certification became effective on 1 November 1966.

A person may also become a watch repairer by registering in an approved course at a college of applied arts and technology. Satisfactory completion of the course will make one eligible to write the departmental examination, and, if successful, to receive a Certificate of Qualification. Persons who complete only part of an approved training course may complete their training as apprentices and on registration, will receive full credit for the training previously taken.

Ontario Regulation 51 (as amended by O.R. 227/71).

## Service Trades
## Non-regulated

**Butcher**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
4 periods of 1,800 hours each.

*Minimum wages:*
40, 50, 60 and 70 per cent of journeyman's wage per period.

*Duties and skills:*
Carries out slaughtering, skinning, cleaning, hanging operations, in accordance with government regulations and acts; bones and trims various types of meat carcasses, i.e. beef, veal, lamb and pork, into marketable retail cuts; may make various kinds of sausages and prepare special meats and fancy meat products.

**Furrier**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
3 periods of 2,000 hours each.

*Minimum wages:*
50, 60 and 70 per cent of journeyman's wage per period.

*Duties and skills:*
Makes, alters, restyles and repairs fur garments; estimates cost of new garments, alterations, renovations and repairs; selects and modifies patterns for fur garments to suit customer's size and style preferences; grades, sorts and matches furs to be used; cuts, joins, lays out, stretches and trims sewn parts to conform to pattern and design; assembles and sews fur parts and lining to produce finished article; repairs garments by cutting out worn or damaged skins, cutting matching replacement furs to size and sewing in place.

**Horticulturist (Landscaper, Nurseryman)**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
3 periods of 2,000 hours each.

*Minimum wages:*
50, 60 and 70 per cent of journeyman's wage per period.

*Duties and skills*
Manages nurseries and tree farms; maintains turf, trees and grounds; plans and executes landscaping operations; prepares, drains and grades terrain; identifies and propagates plants, including greenhouse crop production; controls weeds and insects; has knowledge of soil types, drainage and irrigation systems, pesticides, surveying and blueprint reading; may design and construct greenhouses and landscape structures, using concrete, masonry and wood construction techniques and materials; assists in plant material sales; maintains and operates small and large machinery.

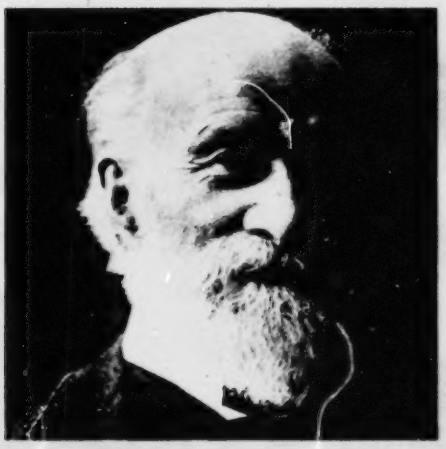
**Retail Meat Cutter**
*Education requirements:*
Grade 10 or equivalent.

*Length of program:*
2 periods of 2,000 hours each.

*Minimum wages:*
50 and 60 per cent of journeyman's wage per period.

*Duties and skills:*
Bones and trims various types of meat carcasses, i.e. veal, beef, lamb and pork, into marketable retail cuts; may make various types of sausages and prepare special meats and fancy meat products; may also carry out poultry and fish production.

# Miscellaneous Non-regulated Trades



**Sandford Fleming:**
After four years apprenticeship to John Sang, Engineer and Surveyor of Kirkaldy, Scotland, Sandford Fleming, aged 18, boarded the sailing ship "Brilliant" and, in the year 1845, started out on a lifetime journey that was to change the face of Canada.

The solid foundation provided by his apprenticeship training served as the springboard for his remarkable and audacious career.

Principal architect of the Canadian Pacific Railway – the impossible dream – he also designed our first postage stamp, brought order to the world's clocks with Standard Time, charted and proposed the first Pacific cable between Vancouver Island and Australia, co-founded the Royal Canadian Institute and served as Chancellor of Queen's University for 35 years.

## Miscellaneous Non-regulated Trades

There are training programs for over 200 non-regulated trades in Ontario. Some of the more popular ones are listed here, along with the number of training hours involved in each. Graduate apprentices are awarded Certificates of Apprenticeship as evidence of having attained the journeyman level of knowledge and skill.

New apprenticeship training programs can be developed on request. The programs are usually custom-designed to meet the exact requirements of particular jobs and employers.

Auto Upholsterer
3 periods of 1,800 hours each.

Electro-Plater
4 periods of 1,800 hours each.

Foundryman (Coremaker)
2 periods of 2,000 hours each.

Foundryman (Moulder)
4 periods of 2,000 hours each.

Ironworker (Plant)
3 periods of 2,000 hours each.

Jockey
3 periods of 1,800 hours each.

Optics Technician
(Lens and Prism Maker)
4 periods of 2,000 hours each.

Pipefitter (Industrial)
3 periods of 2,000 hours each.

Plastics Technician
3 periods of 2,000 hours each.

Plateworker
4 periods of 2,000 hours each.

Plumber (Plant)
4 periods of 2,000 hours each.

Printer–Letterpress (Job-Shop)
4 periods of 2,000 hours each.

Printer–Lithography (Job-Shop)
4 periods of 2,000 hours each.

Ship Builder (Joiner)
4 periods of 2,000 hours each.

Ship Builder (Ship Plater)
4 periods of 2,000 hours each.

Steel Mill Worker (Blast Furnace)
4 peroids of 2,000 hours each.

Steel Mill Worker (Rolling Mill)
4 periods of 2,000 hours each.

Upholsterer (Furniture)
3 periods of 2,000 hours each.

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Industrial
Training
Branch offices